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32603sh

B2 in this case are insulated against blood flow temperature variations so that the sensors 304 accurately record wall temperatures without being adversely affected by blood flow. This embodiment is also not restricted to the use of two fingers, but more may be used such as the three fingers 310, each with a sensor 312, as shown in Figure 3C. In addition, as with the other embodiments described herein, the embodiment described with reference to Figures 3A through 3C may also be calibrated so as to provide a user with an estimate of inner vessel diameter as well as localized temperature.

B3 *Replace the paragraph beginning on page 16, line 19 to page 17, line 4 with the following:*

Figures 4A through 4D preferred hand-type embodiments of the invention. In Figure 4A, a sensing head 402 includes one or more sensing cantilevered arms 404, each with a thermal sensor 406, surrounding a central member 410. The arms and central member are configured such that when the member is pulled from the proximal end, the arms fan outwardly from the contracted state of Figure 4A into a the expanded position, as shown in Figure 4B. Again, the arms are cantilevered to provide a relatively constant and uniform force against the vessel wall in the expanded state while avoiding excess pressure.

B4 *Replace the paragraph on page 17, lines 5-12 with the following:*

In Figures 4A and 4B, the member 410 is preferably not uniform in cross section but, rather, includes a conical or ramp shape along the distal end of the member, such that when it is pulled from the proximal end the arms fan outwardly and into the sensing position shown in Figure 4B. Figure 4D is a drawing of a central lumen configuration incorporating an inner lip providing a rapid yet controlled flare of the expanding arms. In this case the proximal end of the plunger 440 includes a rim 442 configured to lock into a corresponding recess 444 in the body of the sheath. This allows the arms to expand outwardly while preventing over-expansion.

IN THE CLAIMS:

*Please replace current claim 1 with the following:*

B5 1. (Twice Amended) A system for sensing the temperature of a vessel wall or an arterial wall, the system comprising: